

SUPPORT FOR THE AMENDMENTS

Claim 41 has been amended to recite the subject matter of Claim 45, now canceled. Accordingly, no new matter is believed to have been added to the present application by the amendments submitted above.

REMARKS

Claims 41-44 and 46-59 remain pending. Favorable reconsideration is respectfully requested.

Applicants would like to thank Examiner Roland for the helpful and courteous discussion held with their representative on January 18, 2012. During the discussion, Examiner Roland informed Applicant's representative that Claim 45 may be in condition for allowance. The following remarks expand on the discussion with the Examiner.

Claim 41 has now been amended to recite the subject matter of Claim 45, which has now been canceled.

Accordingly, as set forth in Claim 41, the present invention is now directed to a phase-change memory cell, comprising:

between two electrical contacts, a portion in a memory material with an amorphous-crystalline phase-change and vice versa, as a stack with an active central area located between two passive outmost areas; and

an interface between the active central area and each passive outmost area, each passive outmost area being made in a material having a melting temperature higher than that of the material of the active central area, the material of the passive outmost areas having very low solubility or zero solubility in the material of the active central area, the material of the passive outmost areas being a chalcogenide having the same chemical nature with a different composition of those of the material of the active area, the interface being inert or quasi-inert from a physico-chemical point of view even during a writing operation of the phase-change memory cell,

where the material of the active central area includes between about 16% and 30% of tellurium and between about 84% and 70% of antimony, the material of each passive outmost

area being antimony or antimony mixed with tellurium with a percentage ranging up to about 2%, these percentages being atomic percentages.

The rejection of the claims under 35 U.S.C. §102(b) over Holmberg is respectfully traversed. This reference fails to disclose the claimed phase-change memory cell.

An important feature of the claimed memory cell is that the interface is inert or quasi-inert from a physico-chemical point of view even during a writing operation of the phase-change memory cell. Holmberg fails to disclose this feature for the reasons set forth in the response filed on January 11, 2012.

In addition, Holmberg fails to disclose or suggest a phase-change memory cell as claimed in which where the material of the active central area includes between about 16% and 30% of tellurium and between about 84% and 70% of antimony, the material of each passive outmost area being antimony or antimony mixed with tellurium with a percentage ranging up to about 2%, as specified in Claim 45.

In view of the foregoing, the combination of Holmberg in view of Tanaka and Pertov fails to suggest the claimed phase-change memory cell. Accordingly, the subject matter of the pending claims is not obvious over the cited references. Withdrawal of this ground of rejection is respectfully requested.

Regarding the Restriction Requirement, Claims 42-59 depend directly or indirectly from Claim 41. Since Claim 41 is allowable for the reasons described above, those dependent claims are allowable as well. Accordingly, rejoinder of all of the claims is requested.

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Reply to Office Action of July 11, 2011

Applicants submit that the present application is in condition for allowance. Early notice to this effect is earnestly solicited.

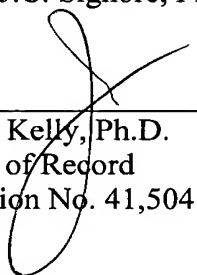
Respectfully submitted,

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